

## Patent Claims

1. A frame element (20, 30; 130; 220) for a monopolar stack, comprising:  
5  
a plurality of recesses (31; 131) for receiving ribs (12; 212) of plate elements (10; 110; 201) arranged to form a stack, and/or  
a plurality of perforations (21; 221) for passing therethrough ribs (12; 212) of plate  
10 elements (10; 110; 210) which are arranged to form a stack.
2. A frame element (20; 220) according to claim 1, comprising perforations (21; 221) for passing therethrough ribs (12; 212) of the plate elements (10; 210) arranged to form a stack, wherein the frame element (20; 220) is provided at one side with a  
15 structure (23; 225) which is electrically conductive in portions and which supports a monopolar wiring of the plate elements (10; 210) arranged to form the stack.
3. A frame element (20; 220) according to claim 2, wherein the structure (25; 225) which is electrically conductive in portions comprises a regular pattern.  
20
4. A frame element (20; 220) according to claim 2 or 3, comprising:  
a printed circuit board on which the structure (25; 225) is formed that is electrically  
25 conductive in portions.
5. A frame element (220) according to any one of claims 1 to 4, comprising:  
mounting means (229) for two end plates (250) which complete the stack of plate  
elements (210) at both sides.  
30
6. A frame element (30; 130) according to any one of claims 1 to 5, comprising at

least one channel (32a, 32b; 132a, 132b) for fluid conduction along a stack axis of the monopolar stack.

7. A method for producing a fuel cell stack, comprising the steps of:

5

arranging plate elements (210) in a stack arrangement;

pre-tensioning the plate elements (210);

- 10 laterally attaching frame elements (220) according to any one of claims 1 to 6 on the stack so that the recesses and/or the perforations (221) of the frame elements (220) receive ribs (212) of the plate elements (210);

offsetting the pretension.

15

8. A method according to claim 7, wherein prior to the offsetting of the pretension the ribs (212) of the plate elements (210) are soldered with the frame elements (220).